CLAIMS

What is claimed is:

1. A method of assigning an optimal system control parameter in a wireless communication system having one or more transceivers, comprising the steps of:

applying a reference frame having a plurality of regions to a coverage area of the communication system, wherein the reference frame is independent of the locations of the one or more transceivers and each one of the plurality of regions corresponds to a location estimate;

assigning to each one of the plurality of regions a code corresponding to a system control parameter optimized for the corresponding location estimate; and

providing to a mobile station the code assigned to a region of the plurality of regions in which the mobile station is located.

2. The method of claim 1, wherein the reference frame is one of a set of geographic coordinates and a grid, wherein the plurality of regions are grid elements.

3. The method of claim 1, wherein each of the plurality of regions accounts for the variance in the location estimate.

4. The method of claim 1, wherein the system control parameter is one of a neighbor list of handoff candidate cells, a handover timer, a handover threshold and a power control threshold.

5. A method of assigning an optimum system control parameter to a mobile station in a wireless communications system having one or more transceivers, comprising the steps of:

dividing the coverage area of the communications system into a plurality of defined geographic regions irrespective of the locations of the one or more transceivers;

assigning a code to each of the geographic regions irrespective of the locations of the one or more transceivers, wherein the code corresponds to a system control parameter optimized for that geographic region;

locating a mobile station as being within a first geographic region of the plurality of defined geographic regions; and

providing the mobile station with the code for the first geographic region and the corresponding system control parameter optimized for the first geographic region.

6. The method of claim 5, further comprising the steps of:

locating the mobile station as being within a second geographic region of the plurality of defined geographic regions;

comparing the code assigned to the second geographic region with the code assigned to the first geographic region; and

providing the mobile station with the code for the second geographic region and the corresponding system control parameter optimized for the second geographic region if, during the step of comparing, the code assigned to the first geographic region is different from the code assigned to the second geographic region.

7. The method of claim 5, wherein the plurality of defined geographic regions are defined by one of location estimates and grid elements.

8. The method of claim 5, wherein the system control parameter is one of a neighbor list of optimum hand-off candidates, a power control threshold, a handover threshold and a handover timer.

9. A communications system having a plurality of base stations defining a coverage area, comprising:

a plurality of defined geographic regions positioned irrespective of the base stations and subdividing the coverage area, wherein a system control parameter is in association with each region, each system control parameter being optimized for a mobile station located within that region;

means for determining a geographic region of the plurality of defined geographic regions in which a mobile station is located; and

means for assigning the mobile station the system control parameter optimized for the region in which the mobile station is located.

10. The communications system of claim 9, wherein each of the plurality of defined geographic regions is assigned a code.

11. The communications system of claim 10, wherein the code corresponds to the system control parameter.

12. The communications system of claim 9, wherein the communications system comprises a wireless communication system.

13. The communications system of claim 12, wherein the wireless communication system comprises a code division multiple access (CDMA) cellular system.

14. The communications system of claim 9, wherein the system control parameter is determined by threshold measurements received by the mobile station from one or more of the plurality of base stations.

15. The communications system of claim 9, wherein the plurality of defined geographic regions comprise a grid and each defined geographic region is a grid element.

16. The communications system of claim 15, wherein a location estimate corresponds to each of the plurality of defined geographic regions.

17. The communications system of claim 16, wherein each of the plurality of defined geographic region accounts for a variance in the location estimate made by the means for determining the geographic regions in which a mobile is located.

18. The communications system of claim 9, wherein the system control parameter is one of a neighbor list of optimum hand-off candidates, a power control threshold, a handover threshold and a handover timer.

19. A mobile station capable of communicating with one or more base stations within a communication system providing wireless communication in a coverage area, the mobile station comprising:

means for being located within one of a plurality of regions each corresponding to location estimates independent of the one or more base stations, wherein the plurality of regions together comprise a reference frame applied to the coverage area; and

means for receiving a code corresponding to a system control parameter optimized for the region the mobile station is currently located.

20. The mobile station of claim 19, further comprising means for retaining the system control parameter.

21. The mobile station of claim 20, wherein the means for retaining the system control parameter is a memory module.

22. The mobile station of claim 21, wherein the memory module is a flash memory.

23. The mobile station of claim 19, further comprising means for updating the system control parameter.

24. The mobile station of claim 23, wherein the means for updating the system control parameter comprises:

means for comparing a first code assigned to a first region of the plurality of regions with a second code assigned to a second region of the plurality of regions; and

means for determining if the first code is equivalent to the second code;

wherein the means for receiving a code includes means for receiving a second system control parameter in response to the means for determining if the first code is equivalent to the second code.

25. The mobile station of claim 24, wherein the first region is a region of the plurality of regions in which the mobile station is currently located and the second region is a region of the plurality of regions in which the mobile station was previously located.

26. The mobile station of claim 25, wherein the second code is the code currently assigned to the mobile station.

27. The mobile station of claim 19, further comprising means for performing pilot scanning.

28. The mobile station of claim 19, further comprising means for merging two or more system control parameters.

29. The method of claim 19, wherein the reference frame is one of a set of geographic coordinates and a grid, wherein the plurality of regions are grid elements.

30. The method of claim 19, wherein each of the plurality of regions accounts for a variance in the location estimate.

31. The method of claim 19, wherein the system control parameter is one of a neighbor list of hand-off candidate cells, a handover timer, a handover threshold and a power control threshold.

32. In a communication system providing wireless communication in a coverage area, a method of providing neighbor lists to a mobile station optimized for the mobile station's location in order to aid in hand-offs between a plurality of transceivers, the method comprising:

assigning a first code to a first region, the first region being defined irrespective of the plurality transceivers' locations, wherein the first code corresponds to a neighbor list optimized for the first region;

assigning a second code to a second region, the second region being defined irrespective of the plurality of transceivers' locations, wherein the second code corresponds to a neighbor list optimized for the second region;

comparing the first code assigned to the first region with the second code assigned to the second region;

merging the neighbor lists corresponding to the first and second regions if the first code assigned to the first region is different from the second code assigned to the second region, resulting in a merged list; and

providing the merged list to a mobile station located in the first region.

33. The method of claim 32, wherein the second region is adjacent to the first region.

34. The method of claim 32, wherein the first and second regions are grid elements.

35. The method of claim 32, wherein the wireless communication system is code division multiple access (CDMA) cellular system.

36. The method of claim 32, wherein the first and second regions correspond to location estimates.

37. The method of claim 36, wherein the first and second regions account for a variance in the location estimate.

38. A method of building and optimizing system control parameters for a cellular communications system having a plurality of base stations and a plurality of receiving locations irrespective of the locations of the plurality of base stations wherein each of the plurality of receiving locations is assigned a code corresponding to a unique set of system control parameters, the method comprising:

identifying a first set assigned to a first receiving location of the plurality of receiving locations as being unique or equivalent as compared to a second set assigned to a second receiving location of the plurality of receiving locations;

receiving at the first receiving location a signal within an add-threshold level from a base station;

adding the signal to the first set creating an updated set;

comparing the updated set to the second set; and

determining a code to be associated with the first receiving location after the step of comparing.

39. The method of claim 38, wherein the step of determining a code to be associated with the first receiving location comprises:

modifying the first code associated with the first receiving location, comprising the steps of:

changing the first code to correspond to the code of the second receiving location if, during the step of identifying, the first set was identified as being unique, and if, during the step of comparing, the updated list is equivalent to the second set; and

associating a new unique code with the first receiving location if, during the step of identifying, the first set was identified as being equivalent, and if, during the step of comparing, the updated set was unique as compared to the second set.

40. The method of claim 38, wherein the threshold signal is one of an add-threshold signal and a pilot measurement that exceeds a threshold.

41. The method of claim 38, wherein the plurality of receiving locations are one of grid elements and location estimates.

42. The method of claim 38, wherein the system control parameter is one of a neighbor list of hand-off candidate cells, a handover timer, a handover threshold and a power control threshold.

43. A computer program embodied on a computer readable medium for assigning an optimal system control parameter in a wireless communication system having one or more transceivers, each of the one or more transceivers having a processor and a memory, the computer program comprising:

a first routine that applies a reference frame having a plurality of regions to a coverage area of the communication system, wherein the reference frame is independent of the locations of the one or more transceivers and each one of the plurality of regions corresponds to a location estimate;

a second routine that assigns to each one of the plurality of regions a code corresponding to a system control parameter optimized for the corresponding location estimate; and

a third routine that provides to a mobile station the code assigned to the region the mobile station is located.

44. The computer program of claim 43, further comprising a fourth routine that periodically locates the mobile station as being within one of the location estimates.

45. The computer program of claim 44, further comprising a fifth routine that compares the code of a second region to the code of a first region wherein the mobile station was previously located in the first region and is currently located in the second region.

46. The computer program of claim 43, wherein the first routine applies a reference frame that is a set of geographic coordinates.

47. The computer program of claim 43, wherein the first routine applies a reference frame in the form of a grid and the location estimates are grid elements.

48. The computer program of claim 43, implemented in a code division multiple access (CDMA) cellular communication system.

49. The computer program of claim 43, implemented in one of a base transceiver station, a base station controller and a mobile station.

50. The computer program of claim 43, wherein the reference frame is one of a set of geographic coordinates and a grid, wherein the plurality of regions are grid elements.

51. The computer program of claim 43, wherein each of the plurality of regions accounts for a variance in the location estimate.

52. The computer program of claim 43, wherein the system control parameter is one of a neighbor list of hand-off candidate cells, a handover timer, a handover threshold and a power control threshold.